

THE McGRAW-HILL COMPANIES

CHEMICAL ENGINEERING

APRIL
1997

Powder & Bulk Solids

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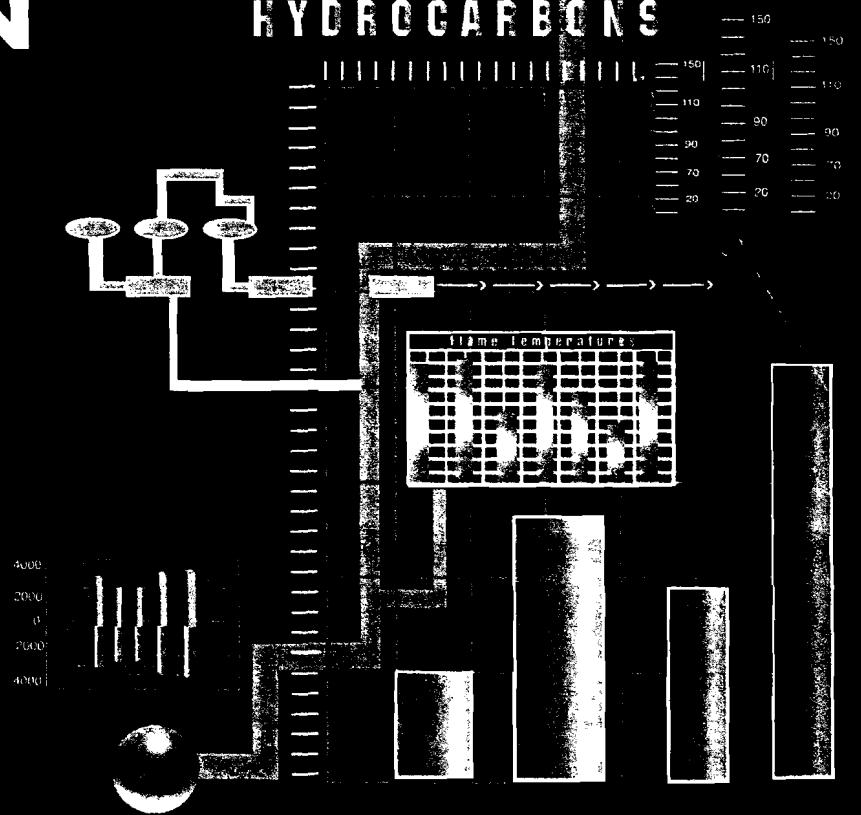
(page 124)

PLANT SAFETY: WAKING UP TO HUMAN FACTORS

(page 70)



HYDROCARBONS



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- Water outsourcing
- Size reduction
- Process simulation

- Rotating equipment
- Waste treatment
- Pulp and paper bleaching

- Making PCs secure
- OSHA teams with EPA
- Flavors and fragrances

ECONOMIC INDICATORS

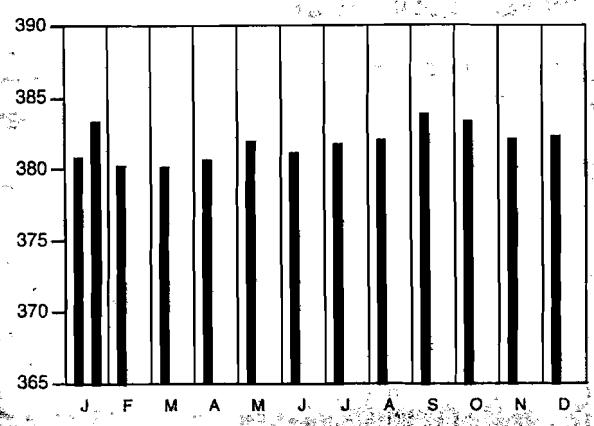
1995

1996

1997

CHEMICAL ENGINEERING PLANT COST INDEX

CE INDEX	(1957-59=100)			Annual Index
	Jan. '97	Dec. '96	Jan. '96	
Prelim.	Final	Final		Annual Index
Equipment	383.4	382.3	380.9	
Heat exchangers & tanks	429.4	428.3	426.4	1991 = 361.3
Process machinery	385.5	385.0	389.2	1992 = 358.2
Pipe, valves & fittings	421.8	417.5	412.9	1993 = 359.2
Process instruments	522.6	519.2	507.3	1994 = 368.1
Pumps & compressors	620.9	618.7	610.2	1995 = 381.1
Electrical equipment	331.1	332.8	332.3	1996 = 381.7
Structural supports & misc.	372.0	375.5	374.7	
Construction labor	278.4	276.8	277.1	
Buildings	369.3	368.9	362.4	
Engineering & supervision	343.2	343.3	344.5	



For an explanation and additional information call: 212-512-6931.

VATAVUK AIR POLLUTION CONTROL COST INDEXES (VAPCCI)

(1st Quarter 1994 = 100.0)¹

CONTROL DEVICE	1994 (Avg.)	1995 (Avg.)	1st Q. '96	2nd Q. '96	3rd Q. '96	4th Q. '96 ²
Carbon adsorbers	101.2	110.7	109.2	107.5	105.2	103.9
Catalytic incinerators	102.0	107.1	107.7	107.0	107.1	105.8
Electrostatic precipitators	102.8	108.2	107.0	107.6	108.9	108.3
Fabric filters ³	100.5	102.7	104.0	104.2	104.8	105.0
Flares	100.5	107.5	104.5	104.9	105.1	105.7
Gas absorbers	100.8	105.6	108.6	108.2	107.1	106.9
Mechanical collectors ³	100.3	103.0	103.3	103.3	103.3	103.3
Refrigeration systems	100.5	103.0	104.2	104.2	104.4	104.8
Regenerative thermal oxidizers	101.4	104.4	105.8	106.0	106.7	106.5
Thermal incinerators	101.3	105.9	108.0	108.0	108.3	108.2
Wet scrubbers	101.3	112.5	111.7	110.1	109.3	109.0

¹ Index values have been rounded to the nearest tenth.

² All fourth quarter 1996 indexes are preliminary.

³ For fabric filters and mechanical collectors, each quarterly value shown is the average of the Producer Price Indexes (PPIs) for the three months in question, divided by the average of the PPIs for January, February, and March 1994 (i.e., first quarter 1994).

Note: For a detailed explanation of the development and use of the VAPCCI, see *Chem. Eng.*, December 1995, pp. 88-95.

MARSHALL & SWIFT EQUIPMENT COST INDEX

(1926 = 100)

M & S INDEX	4th Q.	3rd Q.	4th Q.
	1996	1996	1995
Process industries, average	1,045.1	1,041.9	1,032.6
Cement	1,049.4	1,046.0	1,037.6
Chemical	1,040.0	1,038.5	1,030.6
Clay products	1,044.4	1,041.2	1,029.7
Glass	974.0	972.2	965.8
Paint	1,060.4	1,058.2	1,049.3
Paper	1,010.1	1,005.6	995.5
Petroleum products	1,096.2	1,093.7	1,084.2
Rubber	1,129.4	1,127.7	1,117.5
Related Industries			
Electrical power	958.8	958.6	965.4
Mining, milling	1,080.5	1,075.4	1,063.9
Refrigerating	1,241.3	1,238.2	1,227.1
Steam Power	1,024.2	1,022.3	1,017.7

Annual Index	1991 = 930.6	1994 = 993.4
	1992 = 943.1	1995 = 1,027.5
	1993 = 964.2	1996 = 1,039.2

CONSTRUCTION SPOTLIGHT

COMPANY	PROJECT	LOCATION	COST, CAPACITY	STATUS
Wellman, Inc. (Fayetteville, N.C.)	Plastics plant	Hancock, Miss.	\$313 million	Plans in progress
Shell Chemical Co. (Geismar, La.)	New processing units	Geismar, La.	\$200 million	Design plans in progress
Polsky Energy Corp. (Northbrook, Ill.)	Natural gas-fired cogeneration power plant	De Pere, Wis.	\$60 million	Preliminary engineering plans in progress
BOC Gases Co. (Vancouver, Wash.)	Plant expansion	Vancouver, Wash.	\$30 million	Plans in design development
Huntsman Corp. (Houston, Tex.)	Olefins chemical plant	Port Arthur, Tex.	\$25-50 million	Construction schedule not determined
Baxter International Inc. (Deerfield, Ill.)	Biotechnical facility	Thousand Oaks, Calif.	\$25 million	Preliminary studies complete
Hempfield Township Municipal Authority (Greensburg, Pa.)	Water pollution control plant expansion and upgrade	New Stanton, Pa.	\$18 million	Owner re-evaluating project for possible redesign, possible rescheduling of bids
Lyondell Petrochemical Co. (Victoria, Tex.)	Chemical plant expansion	Victoria, Tex.	\$16 million	Plans in progress
Nabisco Brands Inc. (East Hanover, N.J.)	Superfund Site (Hazardous waste cleanup)	Sag Harbor, N.Y.	\$10-15 million	Soil remediation design complete; groundwater remediation design in progress
Catalyst Recovery of Louisiana (Lafayette, La.)	Catalyst recovery unit	Broussard, La.	\$6 million	Plans in progress, bid schedule not set

This partial list of upcoming projects in the chemical process industries is from DataLine, an online-retrieval service of The McGraw-Hill Companies' F.W. Dodge division. Call 800-221-0088 for more information. The jobs selected are in the pre-planning stage, generally prior to finalization of the engineering design or selection of the general contractor.